Work-up of alopecia

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ALOPECIA WORK-UP

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Increased hair loss and alopecia are very frequent cause of consultation and a major cause of frustration for pet owners. However, the causes of this hair loss are numerous and some cases of hair loss are not caused by diseases and should consequently be regarded as physiologic.

It is consequently mandatory to get a systemic and rigorous approach of these hair losses, to be able to make the correct diagnosis and to help the pets.

The dogs (with the notable exception of the poodle and the silky terrier), as well as the cat, are animals with a very short anagen stage (stage of the hair growth) and a very long telogen stage (resting phase of the hair cycle). This telogen stage could itself be divided in two different periods, the first one, where the hair does not grow anymore but stay in the hair follicle and is still well anchored and a second period where the hair are more fragile, easy to epilate, and fall down upon mechanical trauma.

As mentioned above, the poodle should be regarded as an exception in the world of dogs and hair growth is extremely long in this breed, exactly like in human beings. All other breeds are losing their hairs one or several times a year, usually in a mosaic pattern.

Weather, season, UV light exposure as well as health status, hormone changes and breed specificities are influencing this cycle. These many factors do prevent any attempt to interpret a telogen/ anagen ratio. The mosaic pattern of hair fall prevent any alopecia but is also misleading for the owners who may have the impression that the dogs never loses his hair and that any hair loss should be regarded as the consequence of a disease!

In fact, one should consider that hair loss is pathologic only when some specific body areas are totally or markedly uncovered.

Once alopecia or pathologic hair loss is established, one should carry out a complete case history. Some of the most important points to be highlighted, aside from the exact signalment, are the presence of pruritus or signs of inflammation, the presence of systemic signs, and previous history of disease or stress.

As far as the clinical examination is concerned, one should pay a special attention at the distribution pattern (symmetrical versus patchy, affected body areas) and the signs of inflammation such as erythema, crusts, erosions. Symmetrical pattern are usually associated with non-inflammatory alopecia while non -symmetrical, patchy alopecia are mainly associated with skin inflammation. In the former group, the most frequent conditions are associated with hormone changes (hypothyroidism, hyperadrenocorticism), changes in the hair cyle 8 telogen effluvium, alopecia X, symmetrical flank alopecia), genetic conditions (ectodermal dysplasia, pattern baldness, follicular dysplasias).
The latter group is composed by pseudo-alopecia (alopecia through pruritus such as allergies or ectoparasites). Folliculitis (bacterial, fungal or parasitic¯ demodex) , perifollicular inflammations (Alopecia areata, pseudopelade, sebceous adenitis, leishmaniasis) or vascular processes (vasculitis). It is very important to remember that this classification is mainly useful for acute cases or when the owners can really assess the aspect of the patient and its hair loss at the beginning of the evolution. In fact, the great majority of alopecias may be, at some point, associated with secondary bacterial infection and, consequently, signs of inflammation!

Follicultis are caused by intrafollicular parasites (demodex) or microbes (dermatophytes, bacteria) and are virtually clinically undistinguishable. Clinically, these three conditions are associated with patchy to diffuse alopecia, usually with a non-symmetrical pattern of distribution, some degree of erythema, sometines crusts and erosions. The final diagnosis is made through skin scrapings, cytological examination and cultures.

Sebecaous adenitis is an underdiagnosed condition caused by the immune destruction of sebaceous glands. This disease is associated with non-symmetrical alopecia, scaling, sometimes oily seborrheas and crusts. The hallmark of the condition is the presence of follicular cats around the hair follicle. The diagnosis is usually made after histological examination. Some breeds such Akitas, Viszlas or poodles are predisposed for the condition.

The two main frequent causes of symmetrical alopecia re the associated with hormone changes: hypothyroidism and hyperadrenocorticism. Bothe diseases are associated with systemic changes (see below)

CLINICAL SIGNS OF HYPOTHYROIDISM		
VERY FREQUENT	**FREQUENT**	**SOMETIMES**
Abnormal hair coat, color changes Hypotrichosis Seborrhoea Post-clipping alopecia Obesity Apathy	Alopecia Pyoderma Ceruminöous Otitis externa Myxödema Friolsity	Hypothermia Bradykardia Corneal cholestrol deposition Anoestrus Facial nerv paralysis

CLINICAL SIGNS OF HYPERADRENOCORTICISM	
Very frequent	**frequent**
Polyuro-Polydypsia Polyphagia Pendoulous Abdomen Pending Muscles atrophia Anoestrus Alopecia Hyperpigmentation Pyoderma, demodicosis Comedons Skin atrophia, teleangectasia	Cystitis Panceratitis Testicular atrophy Diabetes Mellitus Calcinosis cutis

One shoudl also pay a special attention at **follicular dysplasia**. This very large group of conditions is associated with hair growth disturbances and these diseases are usually breed-specific. They are typically diseases of the young adult and may affect only one of the various colors of the dog. Affected animals have usually very hairs that fall upon mild trauma. The history is mandatory to

make a correct diagnosis. Sometimes, the diagnosis may be made with an examination of the hair shafts (trichoscopy) but in the vast majority of cases, histo-pathological examination is necessary.

The last group of disease is characterized by changes in the hair cycle, usually a telogen arrest, finally leading to hair loss and alopecia. These diseases (**alopecia X, cyclic flank alopecia, effluviums**) may sometimes be diagnosed with history but require mainly histological examination.

Further readings

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